

Thus, Kohl suggests that the gaseous fuel can be added at the burner stage and/or after the burner stage.

Kohl does not teach that the **product gas** is the same as the **hot combustible gas** which rises from the gasification zone 14. Applicant submits that the Examiner is unfairly rewriting the teachings of Kohl by equating the final product gas with the hot combustible gas rising from the gasification zone 14.

The specification of Kohl clearly teaches that the "product gas" is the final gas produced by Kohl's mode of operation disclosed in columns 6 and 7, i.e. **after the hot gas leaving the burner is cooled by water, water vapor is removed by contact with condenser 60, and the gas is cleaned by contact with aqueous acid to produce a cool and clean product gas.** See column 7, lines 42-47 of Kohl, which states that "this mode of operation will result in the production of a product gas of relatively constant composition and heating value." See also Fig. 1 of Kohl clearly shows that the "product gas" is the final product that is produced at 89. The **product gas** is not the **hot gas leaving the burner.**

Kohl only teaches raising the heating value of the final product gas by adding further hydrocarbons, as cited by the Examiner above.

Kohl clearly teaches cooling the hot gas leaving the burner with water, not hydrocarbons, as admitted by the Examiner:

Examiner agrees that the hot gas leaving the reactor is cooled by using water in the steam generator stage 68; however, this cooling stage takes place much further downstream of the gasification zone.

Thus, the Examiner admits that both Kohl and Nilsson teach cooling the hot gas with water. Kohl does not teach cooling the hot gas with hydrocarbons.

The Examiner admits that the cooling stage is "much farther downstream" of the gasification zone. The Examiner also admits that Kohl teaches adding hydrocarbons to the gasification zone, not the cooling zone. These admissions further demonstrate that Kohl simply does not teach using hydrocarbons in the cooling stage.

Applicant respectfully submits that the Examiner's inherency argument is not supported by the specification of Kohl:

Note, there is no distinctive advantage of **adding the gaseous fuel in the burner** or after the product leaves the burner, since adding gaseous fuel to the product gas either at the burner or after the burner increases the heating value to the product gas. Note, the properties of gaseous fuels of Kohl '918 have a much lower temperature than the product gas (flammable gas material); thus, the gaseous fuels act as a cooling medium, which inherently cool the product gas. (Emphasis added.)

Applicant respectfully submits that adding a hydrocarbon to the burner will result in the hydrocarbon being **BURNED** (combusted) in the burner. When hydrocarbons are burned the result is more heat, **not** cooling. Thus, Kohl cannot inherently teach that by burning hydrocarbons in the burner results in cooling the hot gas rising above the burner, since this would violate well-known laws of thermodynamics.

In the present invention, the cooling medium (hydrocarbons) is not added to and burned in the burner (gasification zone). It is added to the hot gas leaving the burner to cool the hot gas. There is **no** disclosure in Kohl teaching to add the hydrocarbons to the hot gas leaving the gasification zone and the Examiner can cite none. There is a clear distinction between burning a hydrocarbon in a burner and cooling a hot gas with a hydrocarbon.

Furthermore, present claim 11 does not merely recite using a water-free cooling medium. Rather, claim 11 recites the step of "cooling the phases by direct contact with the cooling medium" and then the phase of flammable gaseous material is separated from the phase containing solid and/or fused material. The cooling medium is essentially water-free. The combination of Nilsson and Kohl does not teach these method steps.

Since both Kohl and Nilsson only teach cooling the hot gas stream leaving the burner using water, the combination of these references can only teach using water for such cooling. For this reason alone, the Section 103 rejection should be withdrawn.

Unexpected results

Applicant respectfully submits that the Examiner has not considered the unexpected results of the claimed invention compared to the cited references.

Applicant respectfully requests that the Examiner fully and fairly consider these unexpected results.

See page 2, lines 19-25 of the present specification, which teaches that water cooling undesirable results in carbonate formation. The present invention solves this problem by using hydrocarbon cooling. Nilsson and Kohl do not teach or suggest a solution to the problem of carbonation of boiling and splashing green liquor from the product liquid receiver. For this reason alone, the Section 103 rejection should be withdrawn.

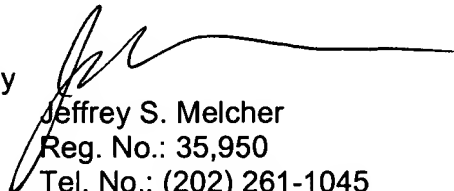
In view of the differences between the claimed invention and the combination of cited references, and unexpected advantages of the claimed invention, withdrawal of the Section 103 rejection is respectfully requested.

In view of all of the rejections of record having been addressed, Applicant submits that the present application is condition for allowance and Notice of such is respectfully requested.

Respectfully submitted,

Manelli Denison & Selter, PLLC

By



Jeffrey S. Melcher
Reg. No.: 35,950
Tel. No.: (202) 261-1045
Fax. No.: (202) 887-0336

2000 M Street, N.W. , 7th Floor
Washington, D.C. 20036-3307